

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A method of isolating a desired nucleic acid from a biological solution, that may contain other species including nucleic acids, proteins, other high molecular weight compounds, salts and other low-molecular weight substances, which method comprises selectively precipitating the desired nucleic acid, while leaving the other species in solution, by adding a polycationic precipitating agent to the solution and allowing it to form an insoluble complex with said desired nucleic acid, wherein the precipitating agent is a highly charged linear polymer that includes quaternary amino groups, and further wherein the precipitating agent is added to the solution in the presence of a salt, wherein the amount of said precipitating agent is sufficient to attain a charge ratio $[+]/[-]$ between the precipitating agent and nucleic acid of \geq about 0.5 during the precipitation.

Claim 2 (previously presented): The method of claim 1, wherein the precipitating agent includes at least 25 positive charges.

Claim 3 (previously presented): The method of claim 1, further comprising a step of estimating the number of negative charges in the biological solution before addition of the precipitating agent.

Claim 4 (previously presented): The method of claim 1, wherein the desired nucleic acid is a plasmid.

Claim 5 (previously presented): The method of claim 1, wherein the biological solution is a cell lysate.

Claim 6 (previously presented): The method of claim 5, wherein the cell lysate is an alkaline cell lysate.

Claim 7 (previously presented): The method of claim 5, wherein the cell lysate is pre-treated before addition of the precipitating agent.

Claim 8 (previously presented): The method of claim 1, wherein the ratio of polymer molecular weight (gram per mol)/polymer charge (number of charges per polymer chain) in the precipitating agent is less than about 1000.

Claim 9 (previously presented): The method of claim 8, wherein the precipitating agent comprises at least about 500 positive charges.

Claim 10 (previously presented): The method of claim 1, wherein the precipitating agent is selected from the group consisting of poly(N,N'-dimethyldiallylammonium chloride), aliphatic ionene bromides and a poly(N-alkyl -4-vinylpyridinium halides).

Claim 11 (previously presented): The method of claim 1, wherein the salt concentration of the solution is controlled during the addition of the precipitating agent to allow quantitative selective precipitation of the nucleic acid/polycation complex.

Claim 12 (previously presented): The method of claim 1, further comprising recovering the desired nucleic acid from the precipitate so formed by separating the precipitate from the solution and subsequent dissolution and/or destruction of the complex.

Claim 13 (currently amended): The method of claim 12, wherein the ~~polyelectrolyte~~ insoluble complex is dissolved and/or destructed by addition of a salt to free the desired nucleic acid in the solution.

Claim 14 (previously presented): The method of claim 12, wherein the dissolution and/or destruction of the complex is performed at a salt concentration above 0.5 M depending on the charge ratio $[+]/[-]$ and salt nature.

Claim 15 (cancelled)

Claim 16 (previously presented): The method of claim 12, further comprising isolating a first desired nucleic acid from the first precipitation formed, to separate said first precipitation from the biological solution and to precipitate a second desired nucleic acid from the remaining solution by a continued addition of precipitating agent.

Claim 17 (previously presented): The method of claim 1 for isolating nucleic acids that have been subjected to modification reactions.